

## Summary

The Government of Malaysia (GOM) heavily subsidizes Malaysian public healthcare. Currently, almost four percent of the GDP is allocated for the healthcare sector. Eighty-five percent of the population lives within a five km radius of a hospital or a government clinic. The main demographic features influencing future options will be a gradually aging population, urbanization, the nuclear family structure and a population that is health conscious. There has been an increase in people suffering from degenerative diseases related to lifestyle and occupational and environmental hazards. During the Ninth Malaysia Plan (9MP), the government will consolidate health care services, enhance human resource development and optimize resource utilization. Delivery systems will be improved with greater involvement of the private sector and Non-Government Organizations (NGOs). Computerization and networking has brought Malaysia a long way in monitoring, analyzing, and disseminating information on local health data. Increasing demand for health tourism, the need for hospitals to upgrade their healthcare services to meet international standards, the increasing pressure for government to upgrade the healthcare industry and today's tech-savvy consumers demanding better healthcare and customer services are some of the driving factors in adopting automation in the healthcare industry. Healthcare information systems are required for timely, accurate and user-friendly evidence-based decision making. Currently, there is limited ability to identify, monitor, access, analyze and utilize data for planning and decision-making. Therefore, the challenge is to have in place a strategic plan to ensure integrated data from both the public and private sectors. This will enhance the ability of the national healthcare system to effectively respond to public health challenges.

## Market Demand

The Ministry of Health (MOH) is the lead agency and the main provider of health care services in Malaysia. The Ministry of Education, Ministry of National Unity and Community Development, the Armed Forces and the local government authorities also contribute to the provision of health care to their relevant target groups. The government subsidizes about 98% of all public medical expenses. The private health care sector has been expanding rapidly in recent years and is targeting the more affluent population. Increasing awareness and rising demand for better healthcare facilities are driving installations of advanced technology systems in hospitals in Malaysia. As a result, public and private hospitals are adopting Hospital Information Systems (HIS).



Telehealth is one of the eight components under the Multimedia Super Corridor (MSC) flagship applications. Telehealth uses internet-based technology providing health service that is both up-to-date and affordable. In 2000, the Telehealth flagship application comprises four components – Lifetime Health Plan (LHP), Continuing Medical Education (CME), Mass Customized or Personalized Health Information and Education (MCPHIE) and teleconsultation. However, only the teleconsultation portion was completed. The Telehealth project was allocated at US\$30 million. The total cost for the LHP, MCPHIE and CME components is estimated at US\$20 million. The

remaining components were later revived and scaled down in magnitude and scope.

MSC Malaysia together with MOH intend to set up a platform that will deliver superior healthcare services through the use of ICT. An example of taking healthcare to the next level using ICT is electronic guarantee letter (eGL) for civil employees. This service makes it easier for them as they would no longer need to go to their workplace first to get guarantee letters before getting hospital treatment or being admitted. This service is now available at 135 hospitals nationwide. Another milestone in health IT is MOH's MyHealth portal. The portal contains credible, localized health content, with more than 500 accredited health articles for everyone. Portal users can get updated information on health alerts affecting the country and the world besides a directory of health services with updated details of hospitals and clinics. The portal also comes with interactive services. More information regarding the [MyHealth Portal](#) is available at the website.

Another application within the health flagship is Continuing Professional Development application for healthcare professionals. It includes virtual library and myCPD portal, which is an initiative that ensure healthcare providers continually maintain and provide high standards of performance and competence by recording and storing information relating to training and development of registered professionals.

Another application under the telehealth flagship is teleconsultation. Teleconsultation basically extends specialist care to patients in rural areas by reducing waiting time and unnecessary patient transfers. To date, 38 hospitals are interlinked within the network, providing specialist healthcare to the general community in the highly specialized areas of cardiology and dermatology. It was reported that 2,500 cases have been exchanged since June 2007.



Pressures are building for health care reform. Reforms need to be related to the development of a health strategy for Malaysia for the year 2020 and beyond. Demographic and epidemiological changes have and will alter demand for health care. They create a need for new services while technological advances expand the possibilities for intervention. Increasing affluence has heightened expectations for care of even higher quality.

Amongst the strategies that would be implemented in 9MP is the Electronic Reporting system (e-reporting) to facilitate the collection, collation and analysis of all health and health related information from all stakeholders. A National Health Information Center will be established to

be responsible for analysis and coordination of all health-related information in the country.

During the 9MP, telehealth will continue to leverage on wireless and high-speed communication networks, inter-linking various medical institutions across geographical and spatial boundaries. This will increase health information sharing, optimizing specialist resources and facilitating data management. Private medical institutions are encouraged to participate and collaborate with government hospitals in the implementation of the Life Health Plan (LHP) services, which will contribute to improved national health planning and execution.

## Market Data

### Development Expenditure and Allocation for ICT-Related Programs, 2001-2010

(U.S. Dollars in Millions)

Program	8 Malaysia Plan (2000-2005)	9 Malaysia Plan (2006-2010)
Computerization of Government Agencies	644.0	1,737.6
Bridging the Digital Divide	737.3	1,124.3
School	650.0	993.7
Communication Infrastructure service	77.0	45.4*
Telecenters	5.5	30.6
ICT Training/Services	4.8	54.5
ICT Funding	341.1	452.4
MSC Multimedia Applications	349.4	333.5
e-Government	162.9	173.5
smart school	110.3	51.4

telehealth	27.8	18.2
Government multi-purpose Card	48.4	90.3
MSC Development	<b>97.2</b>	<b>114.2</b>
ICT Research & Development	<b>220.4</b>	<b>143.6</b>
Total Expenditure and Allocation for ICT-Related Programs (in bold only)	<b>2,389.4</b>	<b>3,905.7</b>

Source: Economic Planning Unit

Exchange rate USD1.00 = RM3..30

Note: \* A larger proportion will be provided through the USP contributed by the industry

To improve health services in the rural areas, more mobile clinics will be provided with minor surgery facilities using telehealth services and modern equipment. The rural areas will have better access to health services and higher quality care. In addition, teleconsultation services will be expanded to enable the provision of specialist services for the rural population especially in Sabah and Sarawak.

Making a success of telehealth is part of the goals of the 9MP. About US\$18.2 million has been allocated for the telehealth project. A nation-wide information system will be introduced to link public and private health facilities. A National Health Informatics Center will be established to ensure that all health-related information will be processed centrally. Priority will be given to the implementation of telehealth services that will enable the interoperability and sharing of information through Lifetime Health Record (LHR) and Lifetime Health Plan (LHP) services. The LHR facilitates integration between providers and enables the provision of seamless and continuous care, while the LHP provides information in relation to various anticipated events in an individual's life including disease prevention and illness management. The LHR and LHP will be implemented on a pilot basis in Seberang Perai in Pulau Pinang. The implementation of the hospital information system (HIS) in selected hospitals will further improve health care delivery by providing accurate and complete patient information online. HIS implementation will be undertaken in phases and will include all new and existing hospitals and clinics.

Selayang Hospital, the first paperless hospital, operates on a Total Hospital Information System (THIS), that integrates clinical, administrative and financial management, enabling seamless data flow between separate areas. Cerner was given the responsibility to operate the system. THIS, has also been implemented at Putrajaya Hospital and Pantai Medical Center by Kompakar eHealth Tech Sdn Bhd, part of System Kompakar Sdn Bhd. Basic and intermediate information system were implemented at Kepala Batas Hospital, Penang and Hospital Lahad Datu, Sabah respectively. THIS implementation is for tertiary hospitals with over 400 beds. Among the challenges in implementation include hospital size, varying work cultures, clinical procedures and services provided as well as operation workflow.

## Best Prospects

The total market for IT in the healthcare industry in Malaysia is expected to grow at a compound annual growth rate of 6.4 percent to reach US\$143.1 million in 2010 from US\$111.5 million in 2006 (according to Springboard Research). There is a growing demand from hospitals to implement system-wide information systems to provide borderless and continuous patient care. The government reflects this in the 9MP by shifting to a patient-centric and clinical-focused model from an administrative model. Hospital Information System (HIS) is being implemented in phases at all new and existing hospitals and clinics. In linking public and private facilities, a National Health Informatics Center (which is in development) will ensure all health information is processed

centrally to control the transfer of patient information between providers. The emphasis on ICT infrastructural development as well as application usage and adoption will provide the private sector with extensive investment and employment opportunities.

US\$8 million (New Straits Times, May 29, 2007) was spent on telemedicine systems that uses digitized telecommunications to link 38 hospitals (see below table) across the country. Doctors and specialists receive online access to the diagnosis and medical history of patients whom they have not met. A pilot project has proven successful in using radiographs, ECGs, laboratory results, echocardiograms and coronary arteriograms to determine the health of patients. It also allows for second opinions, exchange of views among doctors treating a patient and referrals to be made from any of the 38 locations. Teleconsultation, which is one of the applications of telemedicine, is being used for five areas – radiology, cardiology, dermatology, accident and traumatology and neurosurgery. Teleconsultation was put in place by Worldcare Health (Malaysia) Sdn.Bhd. For too long, ill-equipped clinics, low-technology, non-integrated information and bad road systems have prevented many people in the rural areas from getting proper healthcare. According to the Ministry of Health Telehealth Division, the introduction of teleconsultation has helped save ambulances for emergency cases and saved time and costs in getting patients to hospitals. Referrals had been reduced by fifty percent after the system was introduced.

The Hospitals Involved
Kuala Lumpur Hospital
Penang Hospital
Tengku Ampuan Rahimah, Selayang and Kuala Kubu Baru hospitals in Selangor
Ipoh, Grik, Slim River, Sri manjung, Cameron Highlands and Taiping Hospitals in Perak
Alor Star, Langkawi, Kulim hospitals in Kedah
Kangar Hospital in Perlis
Kota Baru, Jeli, Gua Musang and Kuala Krai hospitals in Kelantan
Kuala Terengganu, Hulu Terengganu, Besut and Dungun hospitals in Terengganu
Bentong and Kuantan hospitals in Pahang
Johor Baru, Muar and Tangkak hospitals in Johor
Queen Elizabeth, Kudat, ranau, Beluran and Sempurna hospitals in Sabah
Malacca and Alor Gajah hospitals in Malacca
Seremban, Tampin and Jempol hospitals in Negeri Sembilan

## Key Suppliers

The majority of the public hospitals and clinics are under the Ministry of Health (MOH).

### Health Facilities in Malaysia, 2006

	Units
Total number of MOH hospitals	128
Total number of beds in MOH hospitals	30,969
Total number of special medical institutions (MOH)	6
Total number of beds in special medical institutions (MOH)	4,740

Total number of non-MOH Government hospitals	6
Total number of beds in non-MOH government hospitals	2,916
Total number of private hospitals, maternity/nursing homes	222
Total number of beds in private hospitals, maternity/nursing homes	10,794
Number of MOH dental clinics	2,047
Number of MOH dental chairs	3,407
Number of MOH health clinics	809
Number of MOH rural clinics	1,919
Number of MOH maternal & child health clinics	88
Number of MOH mobile clinics (include mobile dental clinics)	151

Source: Ministry of Health (MOH), Malaysia

The leading vendors in the healthcare industry tend to fall into two categories. The first category is the larger multinational IT vendors, such as Microsoft, IBM, HP, Oracle, SAP, Accenture, EDS and Intel. The second category is comprised of vendors focused on providing healthcare solutions, which increasingly leverage technology as part of these solutions. Local independent solution vendors and system integrators are also quite prominent. They compete and partner with the multinational companies. Selayang Hospital is using Cerner system, Hospital Serdang, Sungai Buloh and Ampang use India's Medicom while Putrajaya Hospital uses Kompakar.

### Prospective Buyers

The current Malaysian population of 26 million is comprised of the following age groups:



- 32.4% - less than 15 years old
- 63.3% - 15-64 years old
- 4.3% - 65 and older

The country's population is projected to reach 28.96 million in 2010, based on a projection growth of an average of 1.6% per year.

### Health Human Resources, 2006

	Public	Private	Total
Total number of doctors	13,335	8,602	21,937
Doctor: population ratio	1:1,998	1:3,097	1:1,214
Total number of dentists	1,368	1,572	2,940
Dentist population ratio	1:19,474	1:16,947	1:9,061
Total number of pharmacists	889	3,403	4,292
Pharmacists population ratio	1:29,966	1:7,828	1:6,207
Total number of nurses	34,598	13,044	47,642
Nurse population ratio	1:770	1:2,042	1:557
Total number of midwife	16,000	577	16,667
Midwife population ratio	1:1,650	1:46,170	1:1598
Total number of medical assistants	7,150	570	7,720
Medical assistants population ratio	1:3,726	1:46,737	1:3,451

Source: Ministry of Health (MOH), Malaysia

Human resource development will be given higher priority during 9MP to address acute shortages in various categories of medical and health personnel. An allocation of RM1 billion or US\$286 million will be provided.

## Market Entry

The best way to enter the Malaysian market is to establish a local presence, which is a crucial component of doing business in Malaysia for contacts or after-sales service. Some exporters find it advantageous to establish their own subsidiary in Malaysia to directly handle sales, distribution, and service. American firms wishing to supply government agencies or government-owned entities need to work with a local Malaysian company in order to bid on projects or tenders. Many American firms choose to have partnership or joint venture agreements with local firms. While this provides more direct control, it requires a commitment of capital and the identification of suitable local joint venture partners. The selection of a joint venture partner is perhaps the single most important decision made by a potential investor in Malaysia.

## Market Issues & Obstacles

As part of the effort in promoting e-commerce, various laws and regulations were enacted to regulate activities in cyberspace. One of them was the Telemedicine Act 1997. The Act provides a framework for the practice of Telemedicine and to recognize the use of multimedia in the practice of medicine. Telemedicine can be practiced by a local doctor who has a valid practicing certificate, a foreign licensed/registered doctor who has been certified by the Malaysian Medical Council through a local doctor or provisionally registered medical practitioner, medical assistant, nurse and midwife approved by the Director-General of Health. No other person can practice Telemedicine and offenders will be fined accordingly. The important condition in telemedicine is that the doctor must obtain written consent from the patient for such treatments. However, there is no provision in the Telemedicine Act on the liability of telemedicine practitioners. Liability is to be determined by contractual principles. This is yet to be enforced. All computer hardware and software are freely imported into Malaysia without any duties.

## Trade Events

### HIMMSS – Transforming Healthcare Through IT

February 24-27, 2009, Kuala Lumpur Convention Center. For more information visit:  
[www.himssasiapac.org/?src=hhpqib&cof=a](http://www.himssasiapac.org/?src=hhpqib&cof=a)

## Resources & Key Contacts

- [Ministry of Health Malaysia](#)
- [Malaysian Medical Association](#)
- [Association of Private Hospital of Malaysia](#)
- [Malaysian Health Informatics Association \(MHIA\)](#)

## For More Information

The U.S. Commercial Service in Kuala Lumpur can be contacted via e-mail at: [natila.ahmad@mail.doc.gov](mailto:natila.ahmad@mail.doc.gov);  
Phone: 60-3-2168-5101; Fax: 50-3-2142-1866; or visit our website: [www.buyusa.gov/malaysia](http://www.buyusa.gov/malaysia).

## The U.S. Commercial Service — Your Global Business Partner

With its network of offices across the United States and in more than 80 countries, the U.S. Commercial Service of the U.S. Department of Commerce utilizes its global presence and international marketing expertise to help U.S.

companies sell their products and services worldwide. Locate the U.S. Commercial Service trade specialist in the U.S. nearest you by visiting <http://www.export.gov/>.

*Disclaimer: The information provided in this report is intended to be of assistance to U.S. exporters. While we make every effort to ensure its accuracy, neither the United States government nor any of its employees make any representation as to the accuracy or completeness of information in this or any other United States government document. Readers are advised to independently verify any information prior to reliance thereon. The information provided in this report does not constitute legal advice.*

*International copyright, U.S. Department of Commerce, 2006. All rights reserved outside of the United States.*